

Abstract

A preferred method of soil remediation in which contaminant organic compounds are removed from soil by a sequential process in which the bulk of natural and contaminant organic compounds are stripped from the soil by hot air injection, followed by applying a strong oxidizing agent, preferably a permanganate, to reduce residual organic contaminant concentration to acceptable levels. Hot air is injected into the soil as it is being churned by the soil mixing device, preferably a chain trencher, to strip off organic compounds. The vapors may be collected through a vacuum hood disposed over the soil mixing device. When the thermal stripping has reduced the bulk hydrocarbon content of the soil (and thus reduced the oxidant demand), an effective amount of permanganate or other strong oxidizing agent is mixed into the soil to reduce the residual organic contaminants. Hot air can also be injected into the soil as or after the oxidizing agent is introduced to accelerate the oxidation rate. In cold wet clay soils, the grounds may be preheated prior to the application of the oxidation agent.